

REMARKS

Claims 1 and 37-72 are currently pending in the application. No claims have been amended, added, or canceled. Applicant respectfully requests reconsideration of the application in view of the following remarks.

Claims 1 and 37-72 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,481,262 to Urbas et al. ("Urbas") in view of U.S. Patent No. 5,374,930 to Schuermann ("Schuermann").

Independent claim 1 relates to a transceiver. Applicant respectfully submits that the cited references fail to teach, suggest, or render obvious at least one of the distinguishing features of independent claim 1, namely, a single antenna adapted for simultaneously receiving a first signal and transmitting a second signal. In addition, the cited references fail to disclose a modulator disposed between an antenna and a signal processor for providing a fourth signal to the antenna for forming the second signal, the modulator varying an impedance between the antenna and the signal processor for providing the antenna with a dual Q-factor, the Q factor being high for the first signal and low for the second signal.

The Office Action concedes that Urbas does not teach the feature of a single antenna adapted for simultaneously receiving a first signal and transmitting a second signal. However, the Office Action asserts that Schuermann discloses this feature. The Office Action asserts that a resonant circuit 34 as disclosed in Schuermann is equivalent to a single antenna adapted to simultaneously receive a first signal and transmit a second signal as in claim 1. Applicant respectfully disagrees.

Applicant respectfully submits that the design of the resonant circuit 34 as disclosed in Schuermann precludes these two actions from happening simultaneously. According to Schuermann, the resonant circuit 34 first receives RF energy and then before an uplink procedure can occur, a transponder must use a switch to connect another capacitor 72 across the resonant circuit 34 (Schuermann lines 38-48 of column 6). As a result, before capacitor 72 is connected, the resonant circuit can receive but not transmit, and after capacitor 72 is connected, the resonant circuit can transmit but not receive. Applicant respectfully submits that the

resonant circuit 34 of Schuermann is not adapted to simultaneously receive a first signal and transmit a second signal as in claim 1.

The Examiner also concedes that Urbas does not teach the feature of a modulator disposed between the antenna and the signal processor for providing a fourth signal to the antenna for forming the second signal, the modulator varying the impedance between the antenna and the signal processor for providing the antenna with a dual Q-factor, the Q-factor being high for the first signal and low for the second signal. However, the Office Action asserts that Schuermann discloses this feature. According to claim 1, the first signal referred to is a received signal and the second signal referred to is a transmitted signal. The feature of claim 1 therefore is directed to having a high Q-factor for the received first signal and a low Q-factor for the transmitted second signal.

Schuermann teaches a transponder tuned with high Q-factor resonant circuits and then adapting itself to receive larger bandwidth FSK signal by lowering the Q-factor of the tuned circuit. Schuermann fails to disclose using the low Q-factor to transmit. Applicant respectfully submits that Schuermann lowers the Q-factor of the tuned circuit for receiving a signal rather than transmitting the signal as in claim 1. Applicant respectfully requests that the 35 U.S.C. § 103(a) rejection of claim 1 be withdrawn.

Independent claims 37, 49, 50, 57, and 60 each recite, among other things, using a single antenna adapted for simultaneously receiving a first RF electromagnetic signal and transmitting a second RF electromagnetic signal. For similar reasons to those stated above with respect to independent claim 1, Applicant respectfully submits that independent claims 37, 49, 50, 57, and 60 also distinguish over the combination of Urbas and Schuermann. Applicant respectfully requests that the 35 U.S.C. § 103(a) rejection of claims 37, 49, 50, 57, and 60 be withdrawn.

Independent claim 54 is directed to an antenna adapted for simultaneously receiving and transmitting a first radio frequency (RF) electromagnetic signal and a second RF electromagnetic signal, respectively. Applicant respectfully submits that the cited references fail to teach, suggest, or render obvious at least one of the distinguishing features of independent claim 54, namely, a modulator disposed in series with a coil, first and second currents flowing through the

modulator for providing the coil with a simultaneous dual Q factor, the Q factor being high for the first current and low for the second current.

The Office Action concedes that Urbas fails to disclose the feature of an antenna adapted for simultaneously receiving and transmitting a first radio frequency (RF) electromagnetic signal and a second RF electromagnetic signal. In addition, the Office Action concedes that Urbas fails to disclose first and second currents flowing through the modulator for providing the coil with a simultaneous dual Q factor, the Q factor being high for the first current and low for the second current. However, the Office Action asserts that Schuermann discloses these features. As disclosed earlier with respect to independent claim 1, Applicant respectfully submits that Schuermann fails to cure the deficiencies of Urbas noted above. Applicant respectfully requests that the 35 U.S.C. § 103(a) rejection of claim 54 be withdrawn.

Independent claim 57 is directed to a transceiver. Applicant respectfully submits that the cited references fail to teach, suggest, or render obvious at least one of the distinguishing features of independent claim 57, namely, a single antenna adapted for simultaneously receiving a first radio frequency (RF) electromagnetic signal and transmitting a second RF electromagnetic signal. In addition, the cited references fails to disclose a modulator disposed in series between the antenna and a signal processor for providing a fourth electrical signal to the antenna in a substantially stepwise manner to effect a variation in the current flowing through the antenna between a low and high value for allowing transmission of the second signal without substantially affecting the receiving efficiency of the antenna. For similar reasons to those stated above with respect to independent claim 1, Applicant respectfully submits that independent claim 57 also distinguishes over the cited combination of Urbas and Schuermann. In addition, in similar fashion to independent claim 57, independent claim 59 is directed to a method for operating a transceiver. For similar reasons to those stated above with respect to independent claim 57, Applicant respectfully submits that independent claim 59 also distinguishes over the cited combination of Urbas and Schuermann. Applicant respectfully requests that the 35 U.S.C. § 103(a) rejection of claims 57 and 59 be withdrawn.

Dependent claims 38-48, 51-53, 55-56, 58, and 61-69 depend from and further restrict independent claims 37, 50, 54, 57, and 60 in a patentable sense. Applicant respectfully submits that, for at least the reasons set forth above with respect to the rejection of independent claims 37, 50, 54, 57, and 60, respectively, dependent claims 38-48, 51-53, 55-56, 58, and 61-69

distinguish the cited combination of Urbas and Schuermann and are in condition for allowance. Withdrawal of the rejection of dependent claims 38-48, 51-53, 55-56, 58, and 61-69 is respectfully requested.

Independent claim 70 is directed to a tuned antenna. The Office Action concedes that Urbas fails to disclose the feature of a capacitor connected in parallel with a coil for providing a resonant frequency at or about a first predetermined frequency. The Office Action asserts that Schuermann teaches this feature. Applicant respectfully disagrees.

Applicant respectfully submits that Schuermann also fails to teach this feature. The Office Action asserts that Urbas teaches the first and second signals referred to in claim 70 and that Schuermann teaches the third and fourth signals referred to in claim 70. Assuming for the sake of argument that the signals are in fact taught by Urbas and Schuermann, Applicant respectfully submits that it is not taught to have the capacitor in Schuermann provide a resonant frequency of the first predetermined frequency when Schuermann does not disclose the signal having the first predetermined frequency. Applicant respectfully submits that independent claim 70 distinguishes over the cited combination of Urbas and Schuermann and requests that the 35 U.S.C. § 103 rejection of claim 70 be withdrawn.

Independent claim 71 is directed to a method for receiving and transmitting a first radio frequency (RF) electromagnetic signal and a fourth RF electromagnetic signal respectively to and from a transceiver. For similar reasons to those stated above with respect to independent claim 70, Applicant respectfully submits that neither Urbas nor Schuermann teaches the feature of tuning an antenna with tuning circuitry to have a resonant frequency at or about a first predetermined frequency. Applicant respectfully requests that the 35 U.S.C. § 103 rejection of independent claim 71 be withdrawn.

Independent claim 72 is directed to a method for receiving and transmitting a first radio frequency (RF) electromagnetic signal and a fourth RF electromagnetic signal respectively. For similar reasons to those stated above with respect to independent claim 70, neither Urbas nor Schuermann teaches the feature of connecting a capacitor in parallel with a coil for providing an antenna with a resonant frequency at or about the first predetermined frequency. Applicant respectfully requests that the 35 U.S.C. § 103 rejection of independent claim 72 be withdrawn.

In view of the foregoing remarks, Applicant believes the pending application is in condition for allowance. A notice to that effect is respectfully requested..

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Respectfully submitted,

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